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Contributions to the *Orthoptera* fauna of the Middle Taurus Mountains (South Turkey)

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Abstract: Contributions to the *Orthoptera* fauna of the Middle Taurus Mountains (South Turkey) .
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The Orthoptera material collected in the Middle Taurus Mountains is evaluated. Totally, 57 species and subspecies are listed. Original references, collecting data and distributional information are given to each species. Remarks are added to some species.

Key Words: *Orthoptera*, fauna, Taurus Mountains, Turkey.

The studied area is rather poorly known in the orthopterological literature. The material studied has been collected mainly from Bozkır district in Konya province, Alanya district in Antalya province and Geyik Mountain in the Taurus Mountain Range, situated between both districts. Separately, several specimens have been captured near Tuz Gölü in the Middle Anatolia. Field studies were made in the second half of June and the first quarter of September in 1997. Totally, 604 specimens, belonging to 57 species and subspecies, have been captured by the author from different 35 localities. Among them, 19 species are endemics for Turkey. *Isophya major* Br.-W., *Poecilimon davisii* Karabağ, *Parapoecilimon antalyaensis* Karabağ, *Drymadusa limbata grandis* Karabağ, *Parapholidoptera antaliae* Nadig and *Paranocarodes aff. fieberi* Br.-W. are found from Taurus Mountains only and its neighbouring. The genus *Parapoecilimon* Karabağ, with its sole species *P. antalyaensis* Karabağ and *Glyptothymus holtzi spinosus* Karabağ are recorded first time after their original descriptions. Some immature specimens are not listed as they could not be determined with certain in the genera *Tettigonia*, *Bucephaloptera*, *Saga* and *Paranocaracris*. All the specimens studied are in the collection of the author.

LIST OF SPECIES

Tettigoniidae: Phaneropterinae

***Acrometopa syriaca* Brunner von Wattenwyl, 1878**

Acrometopa syriaca Brunner von Wattenwyl, 1878, Mon.Phan., p. 85, 87.

Material Studied: Antalya: Alanya, Alarahan, 75m. 21.6.1997, 1 ♂; Mahmutlar, 100m. 22.6.1997, 1 ♂ nymph; 10 km. N. of Mahmutlar, 22.6.1997, 1 ♂, 1 ♀ (nymphs). Distribution: Greece, Anatolia, Middle East (Ramme, 1951; Bei-Bienko, 1954; Harz, 1969).

***Tylopsis lilifolia* (Fabricius, 1793)**

Locusta lilifolia Fabricius, 1793, Ent.Syst., 2:36.

Material Studied: Antalya: Alanya, Alarahan, 75m., 21.6.1997, 2 ♂ nymphs; Mahmutlar, 100m., 22.6.1997, 1 ♀ nymph. Distribution: N. Africa, Europe, Balkans, Anatolia, Middle East, Caucasus, W. Asia (Ramme, 1951; Bei-Bienko, 1954; Harz, 1969).

***Isophya karabagi* Uvarov, 1940**

Isophya karabagi Uvarov, 1940, Ann. mag. Nat. Hist., 4:552.

Material Studied: Konya: Kulu, 1000m., 19.6.1997, 2 ♂, 3 ♀. Distribution: Middle Anatolia (Bei-Bienko, 1954; Karabağ, 1958).

Remarks: This species was known from North of the Middle Anatolia in Ankara province so far. Specimens have been found from West of Tuz Gölü.

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***Isophya major* Brunner von Wattenwyl, 1878**

Isophya major Brunner von Wattenwyl, 1878, Mon.Phan., p. 70.

Material Studied: Konya: Bozkır, Kuruçay, 1400m. 14.6.1997, 4 ♂; 6 km.N.E. of Bozkır, 1400m. 15.6.1997, 2 ♀, 20.6.1997, 1 ♀; Yalhöyük yaylası, 1700m. 14.6.1997, 1 ♂; Sorkun, 1200m. 14.6.1997, 2 ♂, 2 ♀ (in alcohol); 3 km.S. of Elmaağaç, 1200m. 13.6.1997, 3 ♂, 2 ♀ (in alcohol); Hadim, 1200-1300m. 13.6.1997, 2 ♂, 1 ♀; Antalya: Akseki, 1700m. 24.5.1997, 5 ♂, 7 ♀, 1 ♀ nymph. Distribution: S. Anatolia (Ramme, 1951; Bei-Bienko, 1954; Karabağ, 1958).

***Isophya aff. pentheri* Ramme, 1951**

Isophya pentheri Ramme, 1951, Mitt.Zool.Mus.Berlin, 27: 167.

Material Studied: Konya: Seydişehir, Gökhöyük, 1000m. 14.6.1997, 2 ♂. Distribution: Middle Anatolia (Ramme, 1951; Karabağ, 1958).

Remarks: This species was described by Ramme from Erciyes dağ in Kayseri province ca. 430 km. far from Seydişehir, the locality of my specimens. In the same paper, Ramme (1951: 165) described *Isophya anatolica* from Beyşehir that is only 34 km. far from Seydişehir. *I. anatolica* Ramme, 1951 has very similar cercus and subgenital plate with *I.pentheri* Ramme, 1951. My specimens have exactly same cercus and subgenital plate in shape with *I.pentheri* Ramme, 1951. But, for a better comparison more material is needed.

***Poecilimon zonatus* Bolivar, 1899**

Poecilimon zonatus Bolivar, 1899, Annls Soc. ent. Belg. 43: 597.

Material Studied: Konya: Bozkır, Karacaören, 21.6.1997, 12 ♂, 4 ♀; 3 km. S. of Elmaağaç, 1200m. 13.6.1997, 11 ♂, 5 ♀, 2 ♀ nymphs (in alcohol). Distribution: Anatolia (Ramme, 1951; Bei-Bienko, 1954; Karabağ, 1958).

***Poecilimon davisii* Karabağ, 1953**

Poecilimon davisii Karabağ, 1953, Eos, 29:183.

Material Studied: Konya: Bozkır, Kuruçay, 1400m. 14.6.1997, 22 ♂, 14 ♀. Distribution: S. Anatolia (Karabağ, 1958).

***Parapoecilimon antalyaensis* Karabağ, 1975**

Parapoecilimon antalyaensis Karabağ, 1975, J. nat. Hist. London, 9:340.

Material Studied: Antalya: Alanya, Alarahan, 75m. 21.6.1997, 3 ♂, 2 ♀; Kaplanhanı yaylası, 22.6.1997, 1 ♂, 1 ♀, 2 ♂ nymphs, 1 ♀ nymph. Distribution: S. Anatolia (Karabağ, 1975).

Remarks: After the original description of this interesting species, these are the first records from the localities, situated 40-90 km. east of the type locality. Known only from southern slopes of the Middle Taurus Mountains.

Tettigoniinae***Decticus albifrons* (Fabricius, 1775)**

Locusta albifrons Fabricius, 1775, Syst.Ent., p.286.

Material Studied: Antalya:Alanya, Alarahan, 75m. 21.6.1997, 2 ♀. Distribution: N. Africa, Europe, Anatolia, Caucasus, Middle East, S.W. Asia (Ramme, 1951; Harz, 1969).

***Platycleis (s.str.) intermedia intermedia* (Serville, 1839)**

Decticus intermedium Serville, 1839, Ins.Orth., p.488.

Material Studied: Konya: Bozkır, Yalnızca, 1100m. 4.9.1997, 1 ♀; Korualan, 1450m. 4.9.1997, 1 ♀; Taşkent, 1540-1700m. 4.9.1997, 1 ♂. Distribution: Morocco, S. Europe, Anatolia, Middle East, Caucasus, Middle and W. Asia (Zeuner, 1941; Ramme, 1951; Harz, 1969)

***Platycleis (s.str.) affinis affinis* Fieber, 1853**

Platycleis affinis Fieber, 1853, Lotos, 3:150.

Material Studied: Konya: İçerichümra, Yazıbelen, 5.9.1997, 1 ♂. Distribution: N. Africa, Europe, Anatolia, Middle East, Caucasus (Zeuner, 1941; Ramme, 1951; Harz, 1969).

***Platycleis (s.str.) grisea grisea* (Fabricius, 1781)**

Locusta grisea Fabricius, 1781, Spec.Ins., 1:359.

Material Studied: Konya: Bozkır, Pınarcık, 1100m. 20.6.1997, 1 ♂; Avdan, 1300m. 20.6.1997, 1 ♂; Taşkent, Belpınarıbeli, 1850m. 4.9.1997, 2 ♂. Distribution: S. Europe, Anatolia (Harz, 1969).

***Drymadusa limbata grandis* Karabağ, 1961**

Drymadusa limbata grandis Karabağ, 1961, Bull. Br. Mus. (Nat. Hist.) Ent. 11 (1): 11.

Material Studied: Antalya: Alanya, Alarahan, 75m. 22.5.1997, 1 ♂; 10 km. N. of Mahmutlar, 22.6.1997, 1 ♂ nymph. Distribution: S. Anatolia and probably Syria (Karabağ, 1961).

***Parapholidoptera antaliae* Nadig, 1991**

Parapholidoptera antaliae Nadig, 1991, Bull. Soc. Ent. Suisse 64: 127.

Material Studied: Antalya: Alanya, Alarahan, 75m., 22.5.1997, 1 ♂, 1 ♀, 1 ♀ nymph. Distribution: S. Anatolia (Nadig, 1991).

Sureyaella bella* Uvarov, 1934Sureyaella bella* Uvarov, 1934, Eos, 10:54.

Material Studied: Konya: Kulu, 1000m. 19.6.1997, 3 ♂, 2 ♀ (nymphs). Distribution: Middle Anatolia (Uvarov, 1934; Karabağ, 1958).

Gryllidae: Gryllinae***Gryllus campestris* Linnaeus, 1758***Gryllus Acheta campestris* Linnaeus, 1758, Syst. Nat. (ed.10), 1:425.

Material Studied: Konya: Bozkır, Yalnızca, 1100m. 13.6.1997, 1 ♂. Distribution: N. Africa, Europe, Anatolia, Middle East (Ramme, 1951; Harz, 1969).

Modicogryllus aff. frontalis* (Fieber, 1844)Acheta frontalis* Fieber, 1844, Ent.Monogr.Prag, p.127.

Material Studied: Antalya:Alanya, Alarahan, 75m. 22.5.1997, 1 ♀. Distribution: Middle and E. Europe, Anatolia, Caucasus, W. Asia (Ramme, 1951; Harz, 1969).

Remarks: A single ♀ has been captured in the area. It is most similar with *M.frontalis* (Fieber). Of course it should be inspected with ♂ again.

Pyrgomorphidae***Pyrgomorpha guentheri* Burr, 1899***Pyrgomorpha grylloides* var.nov. *guentheri* Burr, 1899, J. linn. Soc. Lond. (zool.) 27:417

Material Studied: Konya: 6 km. N.E. of Bozkır, 1400m. 4.9.1997, 3 ♂, 1 ♀. Distribution: Anatolia, Caucasus, Middle East (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Karabağ, 1958).

Pamphagidae: Akicerinae***Glyphotmethis holtzi* aff. *pulchripes* (Uvarov, 1943)***Asiotmethis pulchripes* Uvarov, 1943, Trans. R. Ent. Soc. Lond. 98:57.

Material Studied: Konya: Bozkır, Avdan, 1300m. 20.6.1997, 3 ♂, 2 ♀; Pınarcık, 1100m. 20.6.1997, 4 ♂, 4 ♀; 6 km. N.E. of Bozkır, 1400m. 20.6.1997, 1 ♂, 5 ♀. Distribution: Middle Anatolia (Cejchan, 1965).

Remarks: Most species of the genus are found in Turkey only. Populations have great varieties. So, there are some identification problems among the species and the subspecies. The present specimens are more similar with this subspecies. Meanwhile, a revisional study on *Glyphotmethis* Bei-Bienko has been carrying out by me.

Glyphotmethis holtzi spinosus* Karabağ, 1956Glyphotmethis holtzi spinosus* Karabağ, 1956, Eos, 32:127.

Material Studied: Konya: Kulu, 1000m. 19.6.1997, 1 ♂, 1 ♀ nymph (leg. M.Ünal); S.W. shore of Tuz Gölü, 25.9.1996, 1 ♀ (leg. M.Vural). Distribution: Middle Anatolia (Cejchan, 1965).

Pamphaginae***Paranocarodes aff. fieberi* (Brunner von Wattenwyl, 1882)***Nocarodes fieberi* Brunner von Wattenwyl, 1882, Prodrum Eur.Orth., p.189.

Material Studied: Konya: Bozkır, Sorkun, 1100m. 14.6.1997, 1 ♂; Kuruçay, 1400m. 14.6.1997, 1 ♀; Antalya: Akseki, 1700m. 27.5.1997, 1 ♀. Distribution: Anatolia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Demirsoy, 1973).

Remarks: Identification of the individuals of *Paranocarodes* Bolivar is rather difficult. 6 species and subspecies were described from Taurus Mountains. Of which, 3 species have been synonymized by Demirsoy (1973) in the last revision of the Turkish species. But the collected new material could not be determined by previous revisions (Bei-Bienko and Mistshenko, 1951; Ramme, 1951; Demirsoy, 1973). The genus should be reviewed that I have in mind.

Acrididae: Catantopinae***Sphenophyma rugulosa* (Stal, 1876)***Platyphyma rugulosa* Stal, 1876, K.svenska Vetensk Akad.Handl., 4 (5):18.

Material Studied: Antalya: Alanya, Mahmutlar, 22.6.1997, 1 ♀ nymph; 10 km. N. of Mahmutlar, 22.6.1997, 6 ♂, 5 ♀, 1 ♂ nymph, 5 ♀ nymphs. Distribution: Anatolia, Middle East (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Karabağ, 1958).

Pezotettix anatolica* Uvarov, 1934Pezotettix anatolica* Uvarov, 1934, Eos, 10:112.

Material Studied: Antalya: Alanya, Alarahan, 75m. 21.6.1997, 5 ♂, 7 ♀, 2 ♂ nymphs, 7 ♀ nymphs; Demirtaş, 50m. 22.6.1997, 3 ♂; 10 km. N. of Mahmutlar, 22.6.1997, 1 ♂. Distribution: Anatolia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Karabağ, 1958).

Eyprepocnemidinae***Eyprepocnemis plorans* (Charpentier, 1825)***Gryllus plorans* Charpentier, 1825, Hor.Ent., p.134.

Material Studied: Antalya: Alanya, Alarahan, 75m. 21.6.1997, 3 ♂, 1 ♀ (nymphs).

Distribution: N. Africa, S. Europe, Anatolia, Middle East, W. Asia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975).

Calliptaminae

Calliptamus tenuicercis Tarbinskyi, 1930

Calliptamus tenuicercis Tarbinskyi, 1930, Bull. Akad. Sci. URSS, p.180, 183.

Material Studied: Konya: Bozkır, Korualan, 1450m. 4.9.1997, 1 ♀; 6 km. N.E. of Bozkır, 1400m. 5.9.1997, 1 ♂, 2 ♀; 10 km.W. of Hadim, 4.9.1997, 1 ♀; Hadim, İğdeören, 1300m. 4.9.1997, 1 ♂; Taşkent, 1540-1700m. 4.9.1997, 3 ♂, 3 ♀; Belpınaribeli, 1850m. 4.9.1997, 3 ♂; Dinek-Kavaklı, 1150m. 5.9.1997, 1 ♂, 3 ♀; İçeriçumra, Yazıbelen, 5.9.1997, 1 ♂, 1 ♀. Distribution: Anatolia, Middle East, Cucusus, S.W. Asia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Jago, 1963; Harz, 1975).

Calliptamus barbarus (Costa, 1836)

Acridium barbarum Costa, 1836, Faun. Nap. Ortott., p.13.

Material Studied: Konya: İçeriçumra, Yazıbelen, 5.9.1997, 1 ♂, 4 ♀; 10 km. S. of İçeriçumra, 1000m. 1 ♂, 1 ♀; Antalya: Alanya, Alarahan, 75m. 21.6.1997, 1 ♂, 2 ♀, 1 ♀ nymph.; Mahmutlar, 100m. 22.6.1997, 6 ♂, 1 ♀; Demirtaş, 50m. 22.6.1997, 1 ♂, 2 ♀. Distribution: Europe, Anatolia, Caucasus, Middle East, S.W. Asia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Jago, 1963; Harz, 1975).

Calliptamus coelesyriensis (Giglio-Tos, 1893)

Caloptenus coelesyriensis Giglio-Tos, 1893, Bull. Mus. Torino, 8:10, 11.

Material Studied: Antalya: Alanya, 10 km. N. of Mahmutlar, 22.6.1997, 2 ♂, 1 ♀ nymph. Distribution: N.E. Africa, Anatolia, Middle East, Caucasus, Middle and W. Asia (Bei-Bienko and Mistshenko, 1951; Jago, 1963; Harz, 1975).

Acridinae

Acrida bicolor (Thunberg, 1815)

Truxalis bicolor Thunberg, 1815, Mem.Acad.Petersb., 5:266.

Material Studied: Konya: İçeriçumra, 1000m. 3.9.1997, 1 ♂, 1 ♀; Dinek-Kavaklı, 1150m. 5.9.1997, 2 ♂, 1 ♀. Distribution: Africa, S. Europe, Anatolia, Middle East (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Dirsh, 1954; Harz, 1975).

Gomphocerinae

Ramburiella turcomana (Fischer de Waldheim, 1833)

Oedipoda turcomana Fischer de Waldheim, 1833, Bull.Soc.Nat.Mosk., 6:351.

Material Studied: Antalya: Alanya, Mahmutlar, 100m. 22.6.1997, 2 ♀; 10km. N. of Mahmutlar, 22.6.1997, 2 ♀ nymphs. Distribution: S. Europe, Anatolia, Middle East, Caucasus, Middle and S.W. Asia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975).

Arcyptera (Pararcyptera) labiata (Brulle, 1832)

Podisma labiata Brulle, 1832, Exped.Sci.Moree, 3:95.

Material Studied: Konya: Bozkır, Karacaören, 21.6.1997, 2 ♂, 3 ♀; Kuruçay, 1400m. 14.6.1997, 7 ♂, 3 ♀; Hadim, 13.6.1997, 1200-1300m. 4 ♂, 2 ♀, 1 ♀ nymph. Distribution: S. Balkans and Anatolia (Harz, 1975; Willemse, 1984).

Dociostaurus (Kazakia) jagoi jagoi Soltani, 1978

Dociostaurus (Kazakia) jagoi jagoi Soltani, 1978, J.Ent.Soc.Iran, 2:30.

Material Studied: Antalya: Alanya, Demirtaş, 50m. 22.6.1997, 1 ♂, 6 ♀. Distribution: N. Africa, Anatolia, Middle East (Soltani, 1978).

Dociostaurus (Kazakia) brevicollis (Eversmann, 1848)

Oedipoda brevicollis Eversmann, 1848, Addit. Fischer de Waldheim, Orth.Ross., 11.

Material Studied: Konya: Bozkır, Kuruçay, 1400m. 14.6.1997, 1 ♂; Pınarcık, 1100m. 20.6.1997, 1 ♂. Distribution: Europe, Anatolia, Caucasus, Middle East, W. Asia, S. Siberia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975; Soltani, 1978).

Dociostaurus (s.str.) salmani Demirsoy, 1977

Dociostaurus (Dociostaurus) salmani Demirsoy, 1977, Türk.Caeli.Faun., p.195.

Material Studied: Konya: Kulu, 1000m. 19.6.1997, 1 ♂, 4 ♀. Distribution: Anatolia (Demirsoy, 1977; Çıplak, 1991; Ünal, 1995).

Dociostaurus (Stauronotulus) cappadocicus (Azam, 1913)

Stauronotus crassiusculus var. *cappadocicus* Azam, 1913, Bull. Soc. ent.Fr. p.219.

Material Studied: Konya: Bozkır, Karacaören, 21.6.1997, 3 ♂; 6 km. N.E. Of Bozkır, 1400m. 15.6.1997, 1 ♂, 1 ♀ nymph; 20.6.1997, 2 ♂, 1 ♀; 3km. S. of Elmağaç, 1200m. 13.6.1997, 6 ♂, 5 ♀ (in alcohol). Distribution: Anatolia (Ramme, 1951; Demirsoy, 1977).

Dociostaurus (Stauronotulus) hauensteini* (Bolivar, 1893)Stauronotus hauensteini* Bolivar, 1893, Rev.Bio.Nord.France, 5:480.

Material Studied: Konya: Kulu, 1000m., 19.6.1997, 2 ♂, 4 ♀. Distribution: Anatolia, Middle East, W. Asia (Ramme, 1951; Soltani, 1978).

Dociostaurus (Notostaurus) anatolicus* (Krauss, 1896)Stauronotus anatolicus* Krauss, 1896, Zol.Jahrb.Syst., 9:560.

Material Studied: Konya: İçeriçumra, Yazibelen, 5.9.1997, 2 ♂, 3 ♀. Distribution: Balkans, Anatolia, Middle East, Caucasus, W. Asia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975; Soltani, 1978).

Stenobothrus (s.str.) fischeri* (Eversmann, 1848)Oedipoda fischeri* Eversmann 1848, Addit. Fischer de Waldheim, Orth.Ross., 11.

Material Studied: Konya: Bozkır, Kuruçay, 1400m. 14.6.1997, 1 ♂, 2 ♀; Antalya: Akseki, 21.6.1997, 3 ♂, 4 ♀. Distribution: Europe, Anatolia, Caucasus, Middle and W. Asia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975).

Stenobothrus (s.str.) zubowskyi* Bolivar, 1899Stenobothrus zubowskyi* Bolivar, 1899, Ann.Soc.Ent.Belg., 43:588.

Material Studied: Konya: 6 km. N.E. of Bozkır, 15.6.1997, 1 ♂, 1 ♀; 20.6.1997, 1 ♂, 5 ♀; Pınarcık, 1100m. 20.6.1997, 4 ♂, 3 ♀; 15km. E of Aydınkışla, 15.6.1997, 2 ♂; Kuruçay, 1400m. 14.6.1997, 1 ♂; Avdan, 1300m. 20.6.1997, 1 ♂; Sorkun, 1200m. 14.6.1997, 1 ♂, 3 ♀ (in alcohol); Hadim, 1200-1300m. 13.6.1997, 1 ♂. Distribution: Anatolia, Caucasus (Ramme, 1951; Bei-Bienko and Mistshenko, 1951).
Remarks: These are southernmost populations in Turkey.

Omocestus petraeus* (Brisout, 1855)Acridium petraeum* Brisout, 1855, Bull. Soc. ent. Fr. 3 (3): 114.

Material Studied: Konya: 6 km. N.E. of Bozkır, 1400m. 5.9.1997, 2 ♀; 10 km. W. of Hadim, 4.9.1997, 1 ♂, 2 ♀; Taşkent, 1540-1700m. 4.9.1997, 1 ♂, 4 ♀. Distribution: Europe, Anatolia, Caucasus, S. Seberia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975).

Chorthippus (s.str.) parallelus parallelus* (Zetterstedt, 1821)Gryllus parallelus* Zetterstedt, 1821, Orth.Succ., p.85.

Material Studied: Konya: 3 km. S. of Seydişehir, 1000m. 14.6.1997, 2 ♂. Distribution: Europe, Anatolia, Caucasus, N.W. Asia, Siberia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975).

Chorthippus (s.str.) dichrous* (Eversmann, 1859)Oedipoda dichroa* Eversmann, 1859, Bull. Soc. Nat. Mosc. 31(1):132.

Material Studied: Konya: Bozkır, Dere, 1100m. 20.6.1997, 4 ♂, 3 ♀; Akçapınar, 1200m. 3.9.1997 1 ♂, 1 ♀; 10km. W. of Hadim, 4.9.1997, 1 ♂, 1 ♀; Taşkent, Belpınarbeli, 1850m. 4.9.1997, 5 ♂, 2 ♀; İçeriçumra, 1000m. 3.9.1997, 10 ♂, 1 ♀. Distribution: Middle Europe, Balkans, Anatolia, Caucasus, Middle and W. Asia, W. Siberia (Bei-Bienko and Mistshenko, 1951; Harz, 1975).

Chorthippus (Glyptobothrus) aff. brunneus* (Thunberg, 1815)Gryllus brunneus* Thunberg, 1815, Mem. Acad. Petersb., 5:249.

Material Studied: Konya: 6 km. N.E. of Bozkır, 1400m. 20.6.1997, 2 ♂, 1 ♀; Dere, 1100m. 20.6.1997, 1 ♂, 2 ♀; Avdan, 1300m. 20.6.1997, 1 ♂, 1 ♀; Sorkun, 1200m. 14.6.1997, 2 ♂ (in alcohol); 3 km. S. of Elmağaç, 1200m. 13.6.1997, 2 ♂, 2 ♀ (in alcohol); Hadim, 1200-1300m. 13.9.1997, 2 ♂; Antalya: Alanya, 10km. N. of Mahmutlar, 22.6.1997, 2 ♂, 2 ♀. Distribution: Europe (Ragge et al., 1990).

Remarks: This species was known from N. Africa and W. Europe to E. Asia and Siberia (Bei-Bienko and Mistshenko, 1951; Harz, 1975). But in the result of acoustics studies (Ragge et al., 1990), it does not occur in Africa. Known from Europe except Iberian and Balkan peninsula. Thus, the occurrence of this species in Turkey is doubtful. But it must be reviewed using their songs in the localities that were reported in Turkey.

Chorthippus (Glyptobothrus) biguttulus* (Linnaeus, 1758)Gryllus Locusta biguttulus* Linnaeus, 1758, Syst. Nat. (ed.10), 1:433.

Material Studied: Konya: 6 km. N.E. of Bozkır, 1400m. 5.9.1997, 2 ♀; Dere, 1100m. 4.9.1997, 2 ♂, 1 ♀; Pınarcık, 1100m. 20.6.1997, 1 ♀; Avdan, 1300m. 20.6.1997, 1 ♂; Karacaören, 21.6.1997, 1 ♀; Çağlayan, 1000m. 14.6.1997; 1 ♂, 2 ♀; Sorkun, 1200m. 14.6.1997, 1 ♀ (in alcohol); Yalnızca, 1100m. 13.6.1997, 1 ♀; Dinek-Kavaklı, 1150m. 5.9.1997, 1 ♀; 10km. W. of Hadim, 4.9.1997, 1 ♂, 3 ♀; Taşkent, 1540-1700m. 4.9.1997, 2 ♂; 3 km. S. of Seydişehir, 1000m. 14.6.1997, 1 ♂. Distribution: It was known from N. Africa, Europe, Anatolia, Caucasus, N. Asia, Siberia (Bei-Bienko and Mistshenko, 1951; Harz, 1975). But now, known from Middle and N. Europe (Ragge et

al.,1990). A revision is needed with the analyses of the songs in the other older localities.

Remarks: Only nominate subspecies was reported from Turkey so far. Helversen (1989) has found a new subspecies from S. Balkans and N.W. Anatolia, *C. biguttulus euhedicki* Helversen, in the result of analysis the calling songs. Also the other populations need analyses of the songs in Turkey. Probably new taxa can be discovered by using this method.

***Dasyhippus escalerae* (Bolivar, 1899)**

Gomphecerus escalerae Bolivar, 1899, Annls Soc. ent. Belg. 43:590.

Material Studied: Konya: Bozkır, Yalnızca, 1100m. 13.6.1997, 1 ♂, 2 ♀. Distribution: Anatolia (Ramme, 1951; Naskracki & Ünal, 1995).

Oedipodinae

***Aiolopus thalassinus* (Fabricius, 1781)**

Gryllus thalassinus Fabricius, 1781, Spec. Ins., 1:367.

Material Studied: Antalya: Alanya, Alarahan, 75m., 21.6.1997, 1 ♀. Distribution: Africa, Europe, Anatolia, Middle East, Caucasus, Middle and S.W. Asia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Hollis, 1968; Harz, 1975).

***Aiolopus strepens* (Latreille, 1804)**

Acrydium strepens Latreille, 1804, Hist. Nat. Crust. Ins., 12:154.

Material Studied: Antalya: Alanya, Alarahan, 75m., 21.6.1997, 1 ♀. Distribution: N. Africa, Middle and S. Europe, Anatolia, Caucasus, Middle East, Middle and W. Asia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Hollis, 1968; Harz, 1975).

***Locusta migratoria* (Linnaeus, 1758)**

Gryllus Locusta migratorius Linnaeus, 1758, Syst. Nat. (ed.10), 1:432.

Material Studied: Konya: Taşkent, Belpınarıbeli, 1850m. 4.9.1997, 1 ♂ nymph, 1 ♀. Distribution: Anatolia, Caucasus, Middle and W. Asia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975).

***Pyrgoderma armata* (Fischer de Waldheim, 1820)**

Acridium armatum Fischer de Waldheim, 1820, Ent. Ross., 1:37.

Material Studied: Konya: Bozkır, Dere, 1100m. 20.6.1997, 3 ♀; Karacaören, 21.6.1997, 5 ♂, 2 ♀; Çağlayan, 1000m. 14.6.1997, 1 ♂; Sorkun, 1200m. 14.6.1997, 1 ♂, 1 ♀ (in alcohol); 3 km. S. of Elmaağaç, 1200m. 13.6.1997, 1 ♂ (in alcohol); Antalya: Alanya, Çayarası, 22.6.1997, 1 ♀. Distribution: Anatolia, Caucasus, Middle East, Middle and W. Asia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975).

***Oedipoda aurea* Uvarov, 1923**

Oedipoda miniata ssp. aurea Uvarov, 1923, Entomologist mon. Mag. 11 (3): 32.

Material Studied: Konya: 6 km. N.E. of Bozkır, 1400m. 5.7.1997, 2 ♀. Distribution: Balkans, Anatolia, Caucasus, Middle East (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975).

***Oedipoda miniata miniata* (Pallas, 1771)**

Gryllus miniatus Pallas, 1771, Reis. Russ. Reich., 1:467.

Material Studied: Konya: Bozkır, Dere, 1100m. 20.6.1997, 1 ♂, 1 ♀; Yalnızca, 1100m. 4.9.1997, 1 ♀, 1 ♀ nymph; 5 km E. of Aydınkışla, 1400m. 5.9.1997, 5.9.1997, 2 ♂; Yazıbelen, 5.9.1997, 1 ♀; Hadim, Korualan, 1450m. 4.9.1997, 2 ♂; İğdeören, 1300m. 4.9.1997, 3 ♂, 1 ♀; Dinek-Kavaklı, 1150m. 5.9.1997, 2 ♂, 1 ♀; Antalya: Alanya, Mahmutlar, 100m. 22.6.1997, 2 ♀; Demirtaş, 50m. 22.6.1997, 2 ♂, 4 ♀. Distribution: N. Africa, E. and S. Europe, Anatolia, Caucasus, Middle East, Middle and W. Asia, S.W. Siberia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975).

***Oedipoda caerulea* (Linnaeus, 1758)**

Gryllus Locusta caerulea Linnaeus, 1758, Syst. Nat. (ed.10), 1:432.

Material Studied: Konya: Bozkır, Dere, 1100m. 4.9.1997, 1 ♂; 10km. W. of Hadim, 4.9.1997, 1 ♀; Taşkent, 1540-1700m. 4.9.1997, 2 ♂, 3 ♀. Distribution: N. Africa, Europe, Anatolia, Caucasus, Middle East, Middle and S.W. Asia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975).

***Acrotylus insubricus insubricus* (Scopoli, 1786)**

Gryllus insubricus Scopoli, 1786, Del. Fau. Flor. Insubr., 1:64.

Material Studied: Konya: Taşkent, 1540-1700m. 4.9.1997, 1 ♂; İçericişma, 1000m. 3.9.1997, 1 ♂; 10 km. S. of İçericişma, 1000m. 5.9.1997, 1 ♂, 1 ♀; Yazıbelen, 5.9.1997, 1 ♂; Antalya: Akseki, 1700m. 24.5.1997, 1 ♂, 1 ♀. Distribution: E. Europe, Balkans, Anatolia, Caucasus, Middle East, S.W. Asia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Harz, 1975).

***Pseudocoles ledereri* (Saussure, 1884)**

Thalpomena ledereri Saussure, 1884, Mem. Soc. Geneve 28:184.

Material Studied: Konya: Taşkent, Belpınarıbeli, 1850m. 4.9.1997, 17 ♂, 9 ♀. Distribution: Anatolia (Ramme, 1951; Bei-Bienko and Mistshenko, 1951; Karabağ, 1958; Demirsoy, 1977).

Remarks: This interesting species has been found from the upper heights of the Taurus.

***Sphingonotus (s.str.) theodori theodori* Uvarov, 1923**

Sphingonotus coerulans theodori Uvarov, 1923, Bull. Soc. R. Ent. Egypte, p.195.

Material Studied: Konya: Bozkır, Boyalı, 1300m. 5.9.1997, 1 ♀; Yalnızca, 1100m. 4.9.1997, 1 ♀; 5 km. E. of Aydınkışla, 1400m. 5.9.1997, 3 ♂; 10km. S. of İçericumra, 1000m. 5.9.1997, 2 ♂; Yazıbelen, 5.9.1997, 3 ♂, 3 ♀. Distribution: Anatolia, Middle East, Sinai (Mistshenko, 1936; Ramme, 1951; Bei-Bienko and Mistshenko, 1951).

***Sphingonotus (s.str.) pilosus* Saussure, 1884**

Sphingonotus pilosus Saussure, 1884, Mém. Soc. Genève, 28(9):201.

Material Studied: Konya: 6 km. N.E. of Bozkır, 1400m. 5.9.1997, 1 ♂, 3 ♀; 5 km. E. of Aydınkışla, 1400m. 5.9.1997, 2 ♂, 1 ♀. Distribution: Anatolia, Caucasus, S.W. Asia (Mistshenko, 1936; Ramme, 1951; Bei-Bienko and Mistshenko, 1951).

***Sphingonotus (s.str.) nebulosus anatolicus* Uvarov, 1930**

Sphingonotus nebulosus anatolicus Uvarov, 1930, Eos, 6:366.

Material Studied: Konya: İçericumra, Yazıbelen, 5.9.1997, 1 ♂, 2 ♀; Taşkent, 1540-1700m. 4.9.1997, 4 ♂, 5 ♀. Distribution: Anatolia (Mistshenko, 1936; Ramme, 1951; Bei-Bienko and Mistshenko, 1951). Remarks: The basal part of hind wings are colourless in the population of Yazıbelen.

***Sphingonotus (s.str.) turcicus turcicus* Uvarov, 1930**

Sphingonotus turcicus Uvarov, 1930, Eos, 6:367.

Material Studied: Konya: Bozkır, Boyalı, 1300m. 5.9.1997, 2 ♀; Taşkent, 1540-1700m. 4.9.1997, 4 ♂, 2 ♀; Dineksaray, 1100m. 3.9.1997, 1 ♀; 10km. S. of İçericumra, 1000m. 5.9.1997, 2 ♂; Yazıbelen, 5.9.1997, 1 ♀. Distribution: Anatolia (Mistshenko, 1936; Ramme, 1951; Bei-Bienko and Mistshenko, 1951).

Remarks: Hind wings with colourless basal part in a single ♀ from Dineksaray.

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